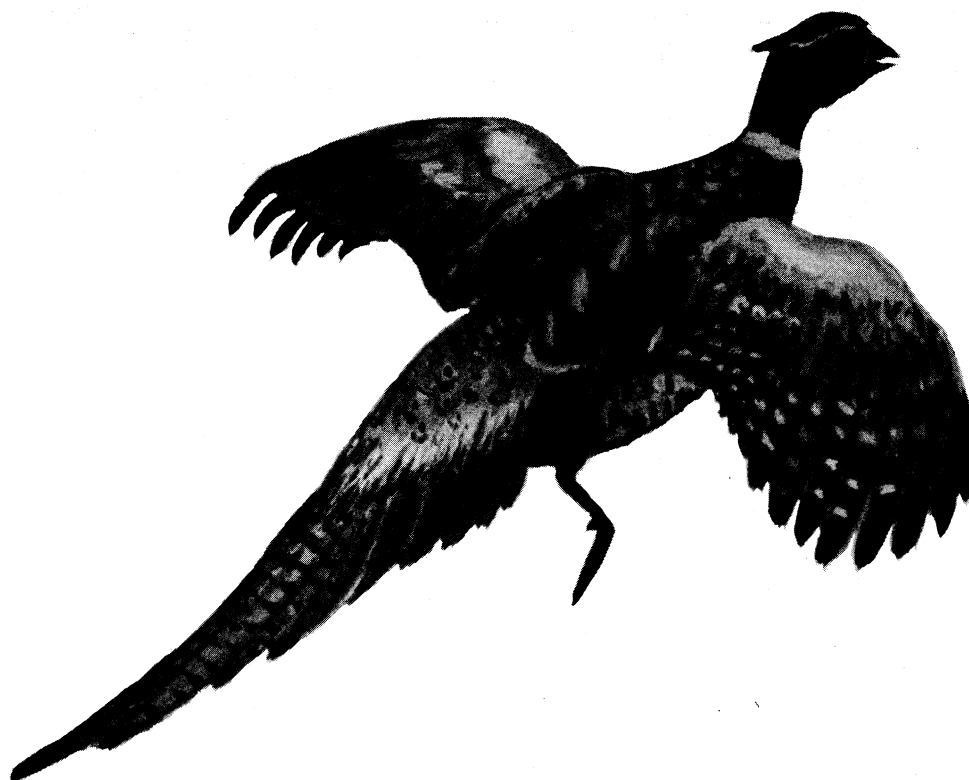


NEBRASKA GAME, FORESTATION AND PARKS COMMISSION



PROGRESS

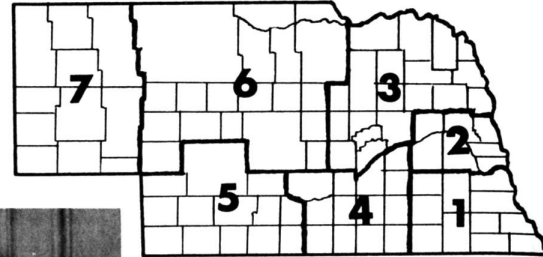
Progress '60

1960 Annual Report

**Nebraska Game, Forestation
and Parks Commission
Lincoln, Nebraska**

**Compiled and Edited
by
Information and Tourism Division**

COMMISSIONERS



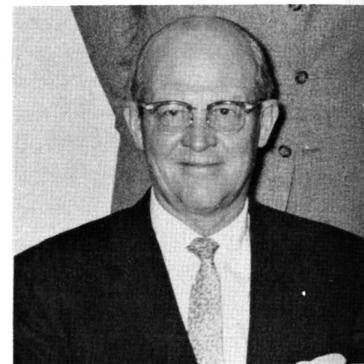
George Pinkerton, Beatrice
District 1



Robert Hall, Omaha
District 2



Leroy Bahensky, St. Paul
District 3



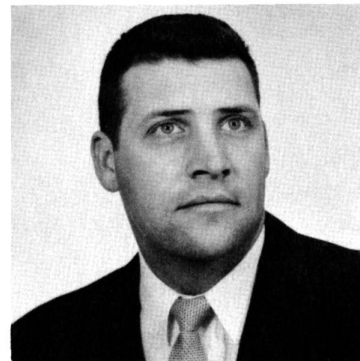
Wade Ellis, Alliance
District 7



Donald C. Smith, Franklin
District 5



District 4
A. I. Rauch, Holdrege



Keith Kreycik, Valentine
District 6

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FISHERIES

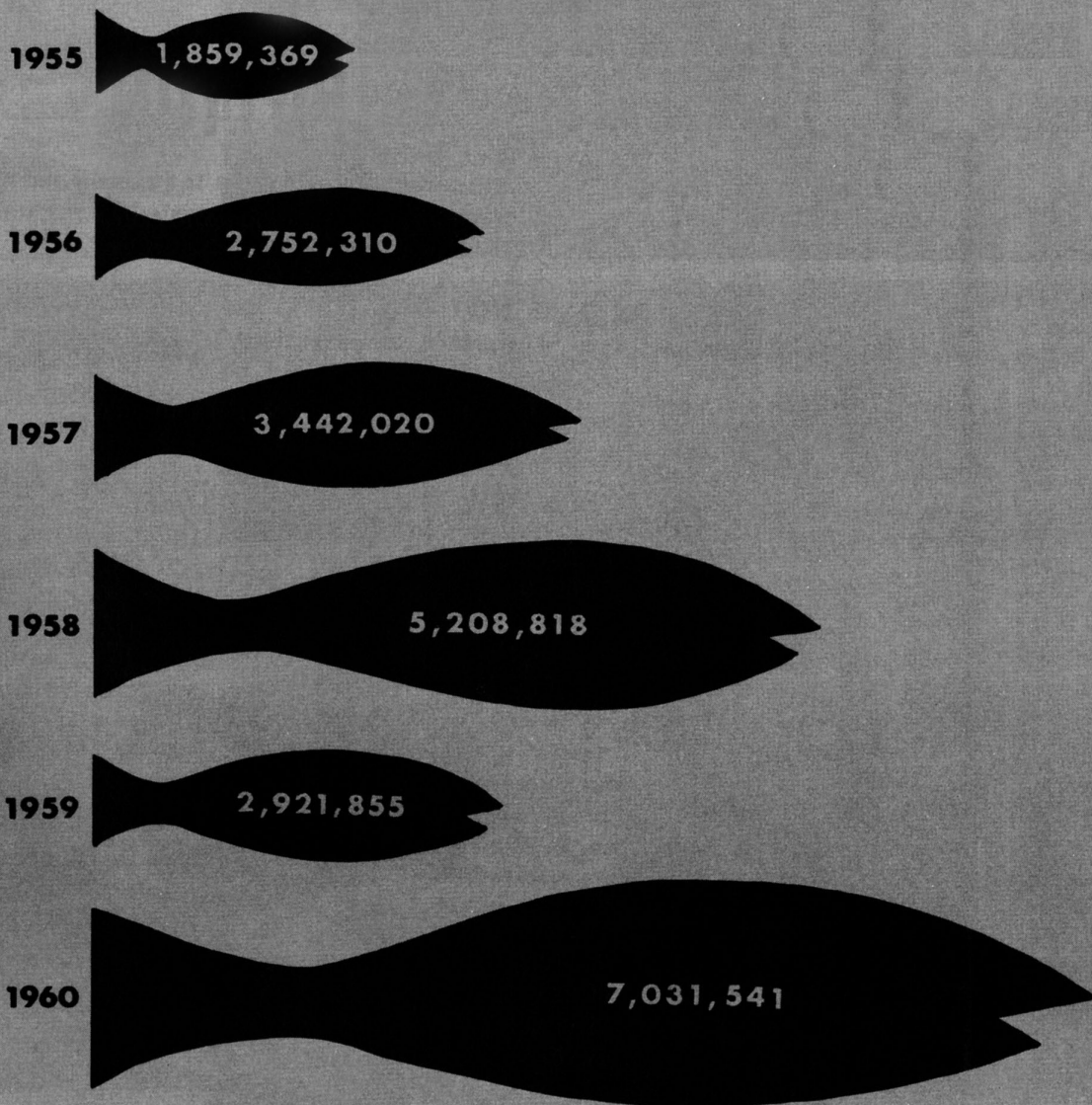
MODERNIZATION of the Fisheries Division was highlighted by formation of the management section. Its four men now handle inspection and reconnaissance jobs, prepare management plans for state-owned and controlled waters, and act as trouble shooters between fisheries biologists and the public. Creation of this section lets research

biologists who previously handled this work to carry out their projects uninterrupted.

Other sections of the Fisheries Division are research, which in 1960 completed a 1,749-Sand Hills lakes survey; production, whose hatchery production was the highest in 15 years; and salvage and distribution.

With 7,031,541 fish stocked during 1960, a new record was set. Of this number, 261,436 were trout, 6,770,105 were warmwater fish. More warmwater fish were stocked in 1960 than during any previous recorded year

SIX YEAR FISH STOCKING RECORD



PRODUCTION COSTS

GRETN: Channel catfish—151,510 eggs, fingerling, fry @ \$37.89 per M. Warmwater fish—19,310 fingerling @ \$156.81 per M. Trout—10,474 fingerling, adult @ \$12.08 per M.

VALENTINE: Northern pike—201,168 fry, fingerling, adult @ \$12.52 per M. Warmwater fish—178,473 fingerling, adult @ \$106.35 per M.

NORTH PLATTE: Warmwater fish—1,809,303 fingerling @ \$12.69 per M.

BENKELMAN AND ROCK CREEK: At this station, trout are stocked at various sizes and transported distances varying from 40 to 350 miles. Costs are dependent on size and distance traveled. Below are the average total costs of fish stocked during 1960: Trout—5 months old @ \$40.52 per M. 7 months old @ \$56.84 per M. 17 months old @ \$563.40 per M. 22 months old @ \$973.22 per M.

Warmwater fish—5,499 fingerling @ 3.14 per M.

FISHERIES:

HATCHERIES

The four fish hatcheries operated by Nebraska include Gretna, mainly producing catfish, black bass, and bluegill; Valentine, producing primarily pike, largemouth bass, crappie, and bluegill; North Platte, a northern pike and walleye producer, and the Benkelman and Rock Creek Hatchery, which is primarily a trout hatching and rearing station.

Nebraska's entire hatchery production of fish in 1960, 2,711,941 was the highest since 1945. The year also saw a record set for northern pike and walleye, with 1,932,455 walleye fry and fingerling, and 269,964 northern pike fry and fingerling stocked.

The redear sunfish, a game species new to Nebraska, was introduced; and experiments were conducted with a warm-water strain of rainbow trout. A detailed operational plan for northern pike production was carried out at the Valentine and North Platte hatcheries.

SALVAGE AND DISTRIBUTION

The salvage and distribution crew, headquartered at North Platte, seined 39 lakes across the state one or more times, four canals, and the

Missouri River. In addition to its bullhead and carp-stocking program, it also assisted in rescue work in the Ashland flood area.

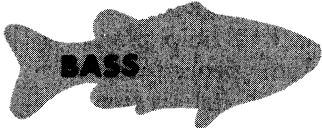





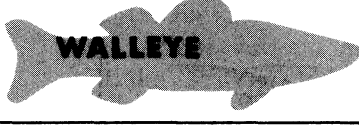

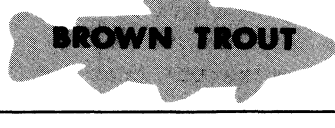


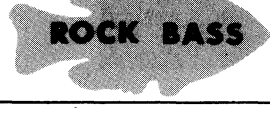
LAKES SEINED

(Number of times each lake was seined in parenthesis)

Mothers Lake
Maloney Lake (5)
Spring Valley Lake (5)
Rice Lake
Lone Tree Lake (2)
Clear Lake
Cottonwood Lake
Moran Lake (5)
Verdon State Lake
McConaughy Lake (3)
Walley's Lake
Coon Lake (2)
Camp Hayes Lake
Johnson Lake (2)
Rush Lake
George's Lake (2)
Hofeldt Lake
Fremont Rod and Gun Club Lake #7
Fremont Rod and Gun Club Lake #8
Wellfleet Lake
Kincaid Lake (2)
Eulah Lake

Bob Jandebeuer Pond
Minatare Lake (3)
City Park Lake, Humboldt
Louisville State Lake #1
Louisville State Lake #2
Louisville State Lake #3
Fremont State Lake #1
Fremont State Lake #2
Fremont State Lake #3
Fremont State Lake #4
Fremont State Lake #5
Fremont State Lake #6
Kilpatrick Reservoir (2)
Sutherland Reservoir (5)
Whitney Reservoir
Canal below Kimball Reservoir
Minatare Upper Canal
Smithfield Canal
Tri-County Canal
Latscher Sandpit
Two Rivers
Missouri River (4)

GRAND TOTALS, 1960
FISH PRODUCED AND STOCKED FROM ALL HATCHERIES...2,711,941

SPECIES	FRY	FINGERLING	ADULT	TOTAL
 BASS		153,625	887	154,512
 BLUEGILL		47,984	130	48,114
 NORTHERN PIKE	147,000	122,694	183	269,877
 CRAPPIE		25,456	336	25,792
 CHANNEL CATFISH		46,075	60	46,135
 WARMWATER TROUT		2,600		2,600
 WALLEYE	154,989	1,777,466	60	1,932,515
 BROOK TROUT		32,636		32,636
 BROWN TROUT		66,650		66,650
 RAINBOW TROUT		66,350	60,459	126,809
 KOKANEE SALMON		2,030		2,030
 ROCK BASS		3,471		3,471
TOTAL	301,989	2,347,837	62,115	2,711,941

FISHERIES : CONTINUED

FISHERIES RESEARCH

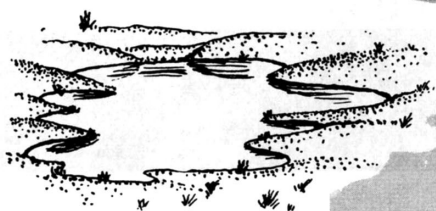
A biological, chemical, and physical survey of Sand Hills lakes was completed in 1960. A life-history study showed the northern pike to be Nebraska's fastest-growing game fish, often reaching 20 inches in the first year. Sand Hills lakes, where the northern pike is an important predator, were found to best meet pike-spawning requirements.

Data collected at Maloney Reservoir revealed that drum and carp are the most numerous species in this lake. Crappie made up 47 per cent of the angler take in 1960. The basic objectives of this investigation were to gain information concerning the population of fish in the reservoir, evaluate experimental measures for the control of undesirable

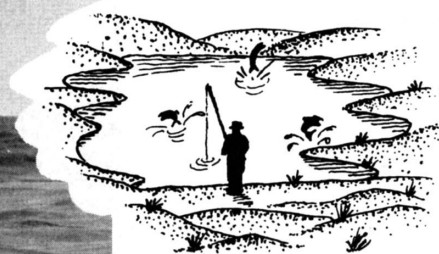
species, and evaluate the survival of marked fingerling walleye. Information gained will help plan harvest regulations and management procedures.

A total of 1,190 acres of potential fish water was treated with fish toxicant in a co-operative program to remove rough-fish populations of federal wildlife refuge lakes. Stream inventory work was conducted on Cedar River and Beaver Creek in the southeastern Sand Hills. Improved fish-culture methods to increase hatchability of eggs and production of fingerling in hatchery ponds were attempted.

Studies continued on experimental stocking of small ponds with emphasis on species stocked rather than on stocking rates and ratios. Methods of reducing pond turbidity also received some study. The studies on the Salt-Wahoo Watershed Project were also continued during 1960.



**THERE ARE 1,640
LAKES (10 ACRES
OR MORE) IN THE
SANDHILL AREA.
THEY COVER AP-
PROXIMATELY
65,800 SURFACE ACRES**



**BUT ONLY 14% (225) HAVE
POTENTIAL FOR
LONG-RANGE
SPORT FISHERY.**



Seining state waters helped formulate management recommendations based on information collected

FISHERIES MANAGEMENT

During its first year, the management section directed the deepening of Ravenna State Lake and the draining and removal of rough-fish species from Wellfleet Lake. Management plans were submitted for Dead Timber, Goose, Pibel, and Vandersnick lakes, and the Niobrara State Park lagoon. Intensive studies of fish populations were carried on at Grove Lake where walleye fingerling were introduced for the first time.

Observations and test nettings conducted on Lake Ericson led to the preliminary stocking of 35,000 walleye fingerling with subsequent stocking recommended in 1961 and 1962. Walleye were also stocked in the canal of the Loup River Public Power District. Northern pike were introduced into Pibel Lake as predators to cut the high population of forage fish.

Fishery work on Verdon Lake in 1960 sought a solution to the serious aquatic vegetation problem and the extreme overpopulation of fish partially caused by this. As yet, no chemical control has been discovered that is satisfactory. The lake was seined, but further reduction in fish numbers is needed before fish of desirable size can be produced.

Burchard Lake fishery management resulted in spectacular growth rates of all species in 1960. Northern pike, for example, grew to an average 16.8 inches and one pound in less than five months.

Electrical shockers, spot rotenoning, visual checks, and records of temperature and turbidity were employed in studying numerous streams. Approximately 400 private ponds were inspected and recommendations submitted for management.



Taking inventories of ponds and streams can aid in determining fish species composition, distribution

GAME

WITH AN increase in the hunters invading the countryside following a generally poor reproductive year, hunter success dropped considerably on all game mammals and most game birds in 1960. Many advances were made, too. A new game species, the scaled quail, was introduced, more antelope and deer were transplanted, and additional pheasants were released in suitable areas—all designed to increase hunting recreation opportunities in the state.

UPLAND GAME

Data not corrected for memory, prestige, or superstition biases

PHEASANT

Pheasant spring breeding populations were about 25 per cent below that of 1959, but still above the average for the past eight years. Improved reproduction boosted the fall population on the major pheasant range to the same level or slightly improved over 1959. During the hunting season, the kill ratio of young to old birds was 6.6 compared to 4.6 young cocks per adult in 1959, indicating better reproduction.

GROUSE

Grouse breeding numbers declined lowering the prairie chicken population by 35 per cent and the sharptail population by 38 per cent. Better reproduction increased the fall population to about 25 per cent below the 1959 figure. Hunting this year was opened on all of the state's primary grouse. Gun hours remained about the same at 3.7 hours, hunter success was 1.23 birds per hunter day, and 79 per cent of the birds checked were sharptails.

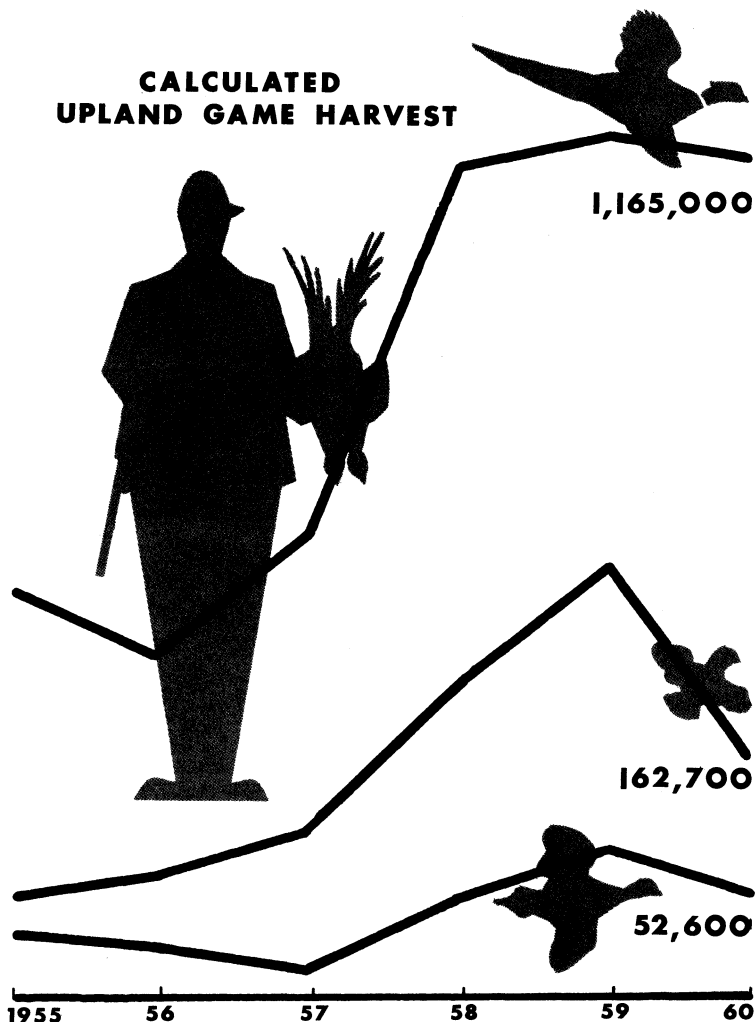
BOBWHITE QUAIL

Bobwhite quail populations decreased as a result of the severe 1959-1960 winter. The local areas with the best cover maintained better populations than the marginal areas, although the areas most affected were in the primary bobwhite range. Hunters averaged 0.87 birds for each hour of hunting from coveys flushed at the rate of 0.59 per hour, the lowest success ratio since 1953 and 22 per cent below average. Of the kill, an estimated 83.5 per cent were young of the year.

SCALED QUAIL

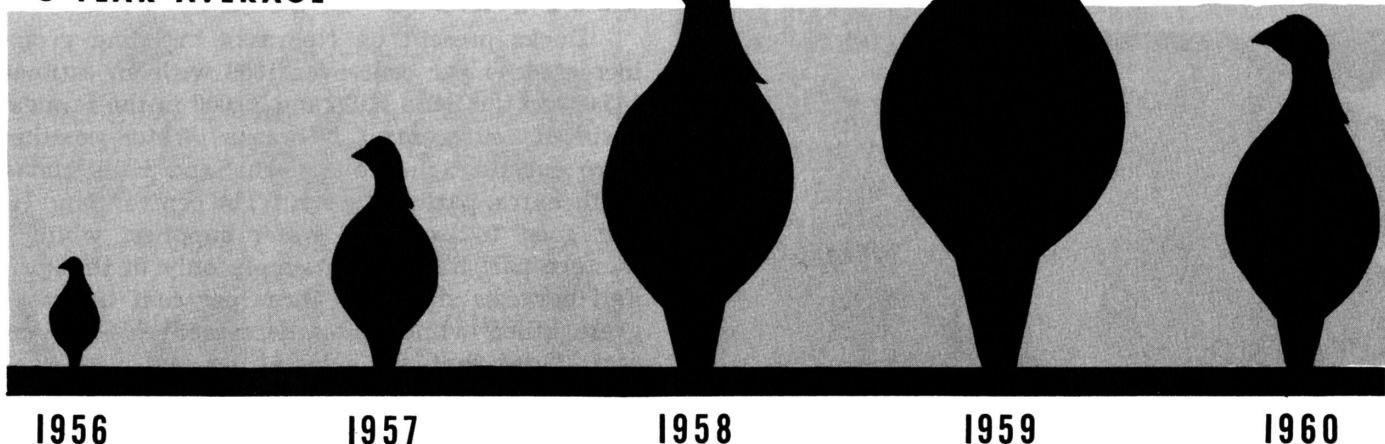
Scaled quail were obtained for stocking in western Nebraska. Of the 677 received, 617 were released. Summer nesting season reports indicate that pairs were often sighted four to ten miles from the release points. Some reproduction did definitely occur but due to dispersal, the total production is unknown.

CALCULATED UPLAND GAME HARVEST

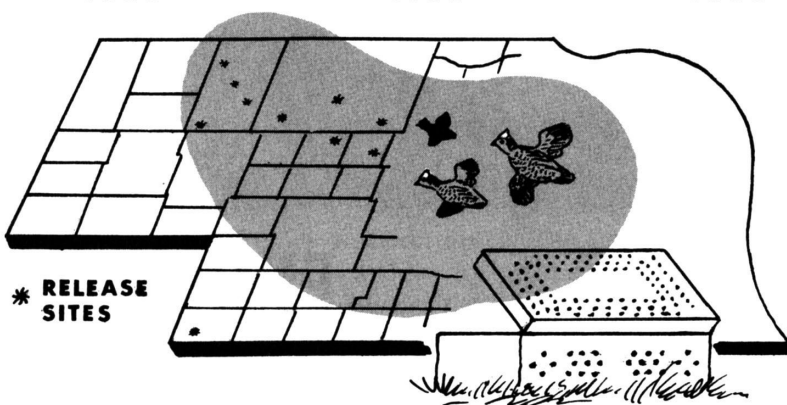


GROUSE POPULATION TRENDS

5 YEAR AVERAGE

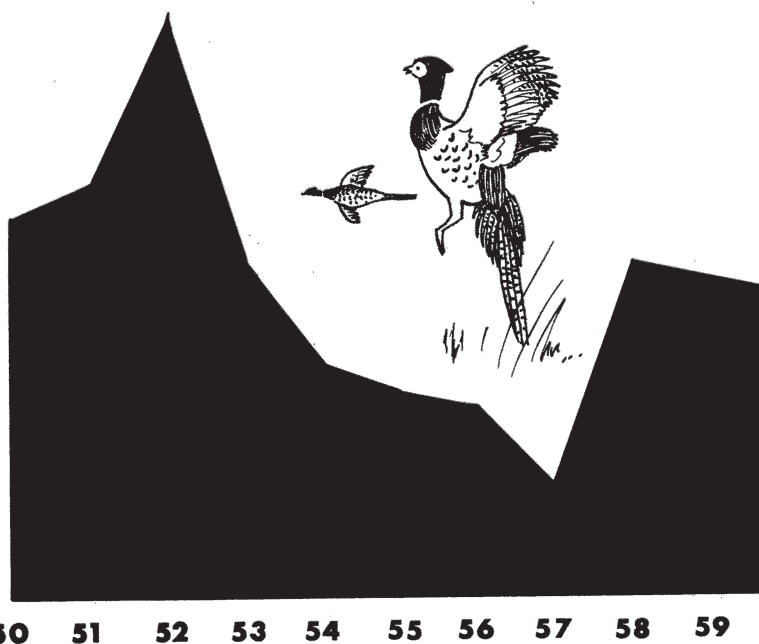
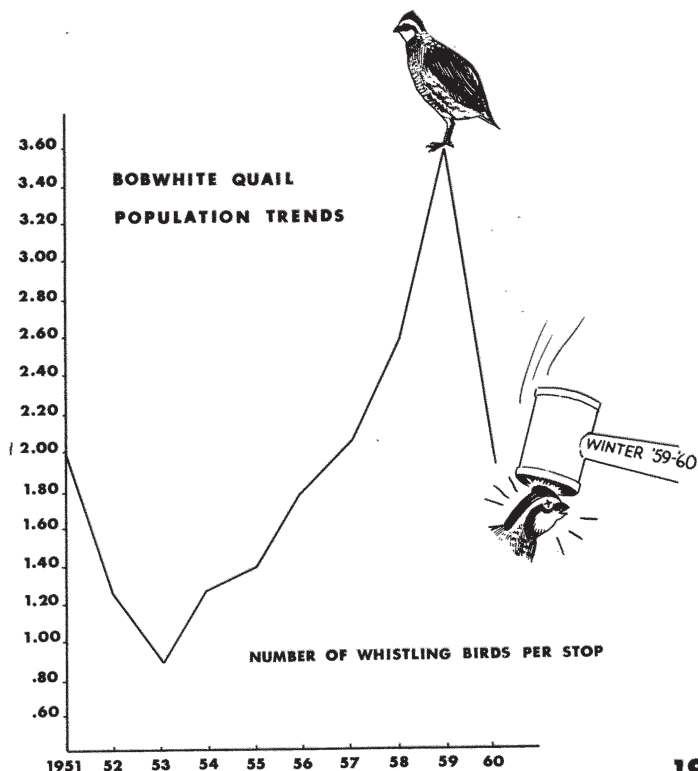


Though grouse breeding numbers declined, better reproduction increased fall population to 25 per cent of 1959



Six-hundred-seventeen scaled quail released in western Nebraska introduced the species for first time

PHEASANT POPULATION TRENDS







A hard winter took toll on Nebraska's bobwhite, bringing the population to 50 per cent below 1959

Improved reproduction boosted fall pheasant population to the same level or slightly improved over 1959

GAME : CONTINUED

WATERFOWL HARVEST

	1959	1960
	305,860	290,378
	15,900	16,380
	2,070	1,327
	5,084	1,990

WATERFOWL

Ducks present on Nebraska breeding grounds increased 44 per cent over 1959 with an estimated 143,000 in the Sand Hills and 39,000 in the rainwater basin of southcentral Nebraska. Water conditions were excellent in the eastern Sand Hills and the southcentral part of the state. The central Sand Hills had good to excellent water supplies, while the western part had a good supply only in the spring. Fall harvests showed a three per cent increase in geese killed while ducks decreased five per cent, coots 36 per cent, and snipe 61 per cent.

The 1960 duck, coot, and snipe hunting success decline can be attributed to warm weather for most of the hunting season. Goose hunting success was very good in 1960




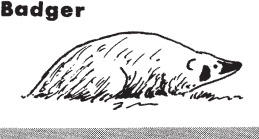






FUR BEARERS

Harvest totals for the 1959-1960 trapping season declined 26 per cent for all furbearing species except coyote and fox. Although the number of trappers dropped from 2,483 to 2,204, the average

monetary return per trapper was \$108.45 compared to \$89.40 last season. The total value of the fur harvest was \$239,050, a seven-per-cent increase over the past season.

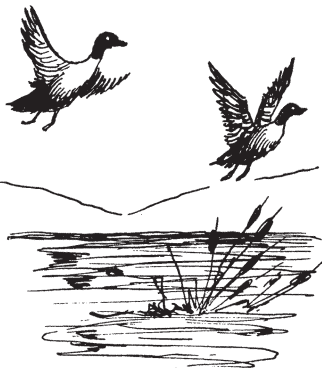
Though the 1959-1960 trapping season harvest declined, prices were somewhat improved for all species

FURBEARER HARVEST

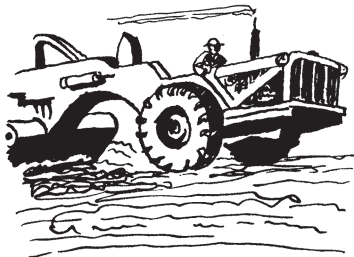
	CALCULATED HARVEST 1958 - 59	HARVEST 1959 - 60	VALUE OF HARVEST		CALCULATED HARVEST 1958 - 59	HARVEST 1959 - 60	VALUE OF HARVEST
 Muskrat	107,900	69,470	\$ 40,293	 Opossum	2,345	2,335	770
 Raccoon	9,770	12,910	20,293	 Badger	265	513	754
 Mink	8,850	8,450	114,467	 Civet	612	457	457
 Beaver	8,340	7,970	58,913	 Weasel	142	139	111
 Skunk	2,570	2,540	2,389	 Bobcat	111	59	373

DECREASE OF ORIGINAL WETLANDS IN THE PAST 45 YEARS

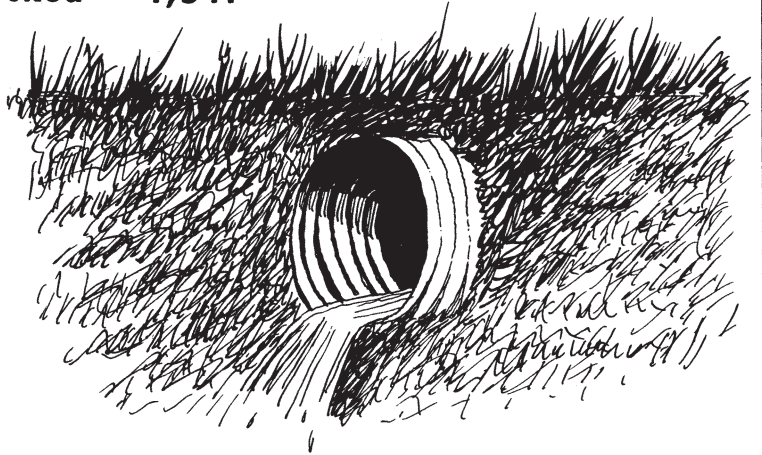
Total Number Checked - 1,541



22% Remain



**25% Filled
and Levelled**



53% Drained

Many valuable wetlands are being eliminated as waterfowl habitat because of continuing draining, filling

GAME RESEARCH

Pheasant, grouse studies find ways to determine population

WETLAND SURVEY

Wetland survey investigations are designed to locate, describe, and catalogue the characteristics of the state's wetland areas. The data will be used to determine priorities for acquisition, preservation, and development of waterfowl habitat. The area surveyed in three southcentral counties originally contained about 1,306 water areas. Most of the easily drained wetlands have already been emptied, many of the more difficult and expensive to drain areas are being invaded at present, and the practice of drainage is continuing.

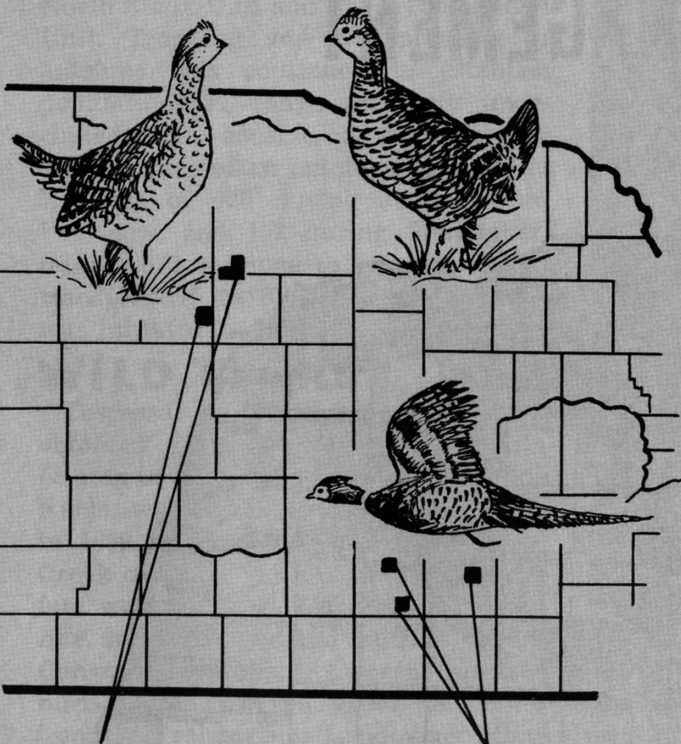
GROUSE STUDIES

Prairie grouse study effort was centered around development of techniques to be used in determining production and fall populations. Other work included studying the normal movements by trapping marked birds, cover mapping and analysis of vegetation, harvest of grouse and hunting pressure on the study areas, and determining the seasonal populations.

PHEASANT STUDIES

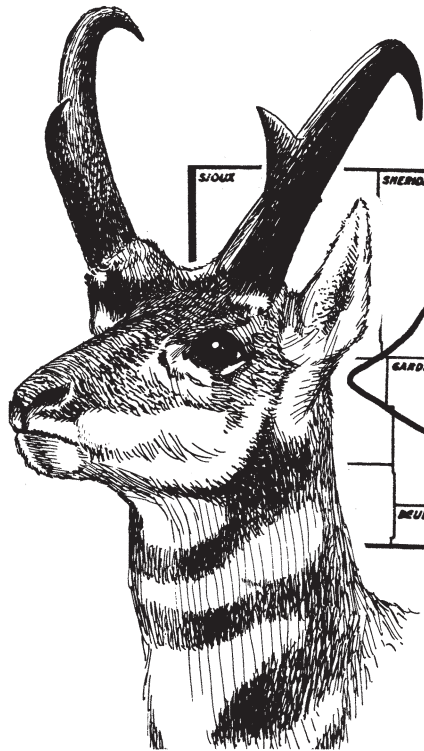
Pheasant studies during the past five years have indicated a close correlation between each year's breeding population and the preceding year's production. The average number of chicks produced for each hen seems to offer a key to predicting increases or decreases in the next spring's population. When 3.0 young per hen is not attained, the following spring's population declines; when exceeded, the breeding population increases. This regulated production in turn determines the breeding population for the following year.

CURRENT UPLAND GAME BIRD RESEARCH PROJECTS

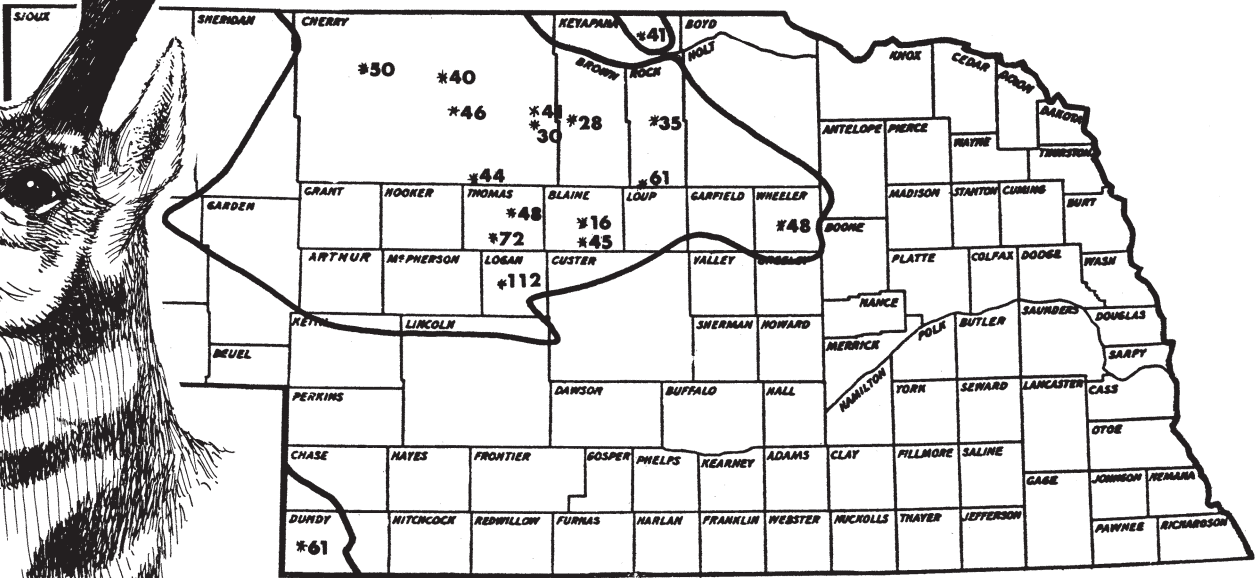


**GROUSE
RESEARCH
STUDY AREAS**

**PHEASANT
RESEARCH
STUDY AREAS**



DISTRIBUTION OF ANTELOPE RELEASES



Five-hundred-seventy-two antelope were released in 1960, bringing the total released since 1958 to 817

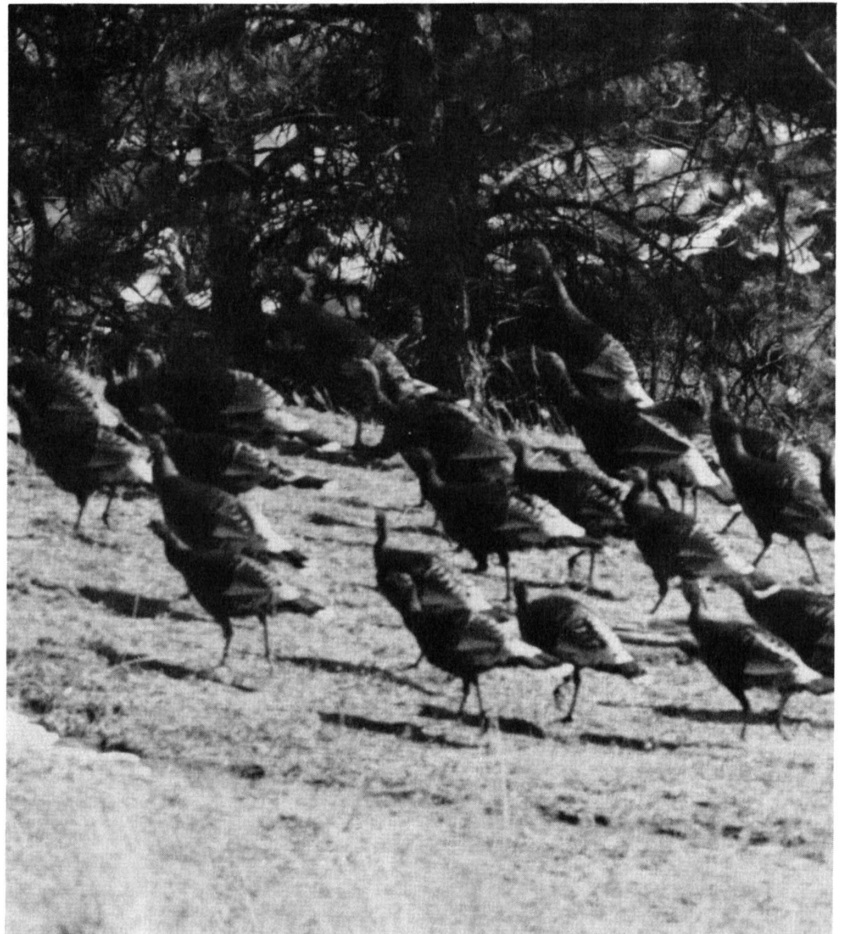
ANTELOPE

Hunting season opened North Sioux and Garden management units to hunting for a period of three days. A total of 550 permits were allotted; 300 in the North Sioux Unit and 250 in the Garden Unit. Trapping and transplanting of antelope was continued to establish populations in range presently unoccupied but considered suitable for maintenance of an antelope population. Releases of 420 during January and February, and 152 during September, totaled 572 antelope to bring the total transplanted to 817 since the project was initiated in 1958.

WILD TURKEY

Dispersal of Merriam's wild turkey, obtained from Wyoming and South Dakota in 1959 and released in the Pine Ridge, was much greater in 1960 than in 1959. Broods from the Cottonwood Creek drainage release were sighted as far west as the Nebraska-Wyoming line, and as far east and south as Bryant Canyon. Deadhorse Canyon - released birds were observed about ten miles from their release site. Landowner interviews and observations indicate a population of about 250 turkeys in the Cottonwood Creek area and 50 to 75 in the Deadhorse Canyon area.

During 1959, 28 Merriam's wild turkeys were released in the Pine Ridge. After two breeding seasons, they now number 300



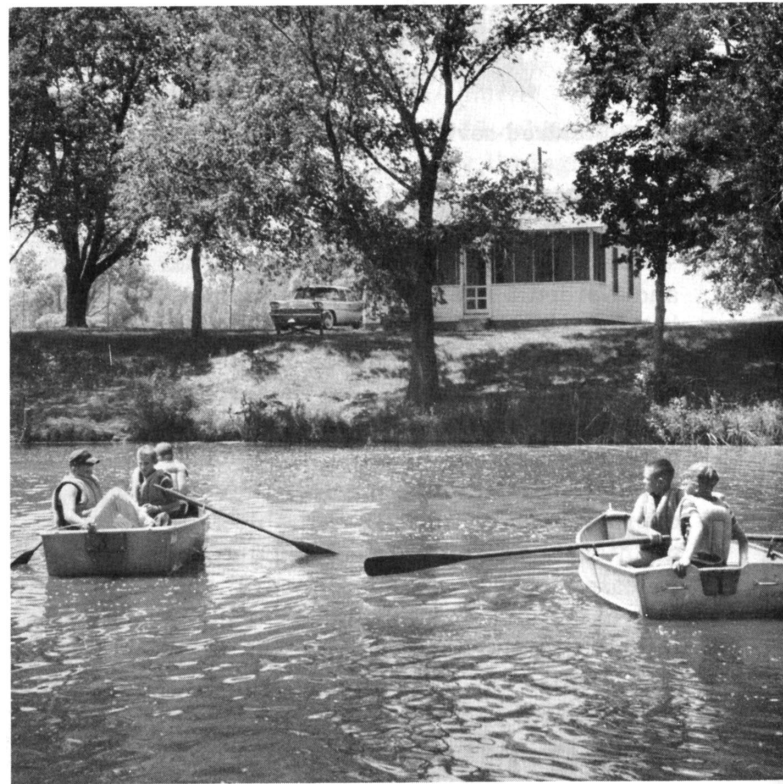
PARKS

THE 1959 passage of L.B. 408 made a big change in Nebraska's state park system. State-park financing was put on a reliable and predictable 10-year-mill-levy system, with the funds obtained from this .13-mill-levy program providing for administration, planning, operations and maintenance, land acquisition, construction, and improvements.

People made greater use of state areas in 1960 with the number of campers in these areas increasing considerably over 1959. And, although there were less total people using cabins during 1960, total guest days increased nearly 2,000 over 1959, the trend showing the modern family staying at the state areas for longer periods of time.

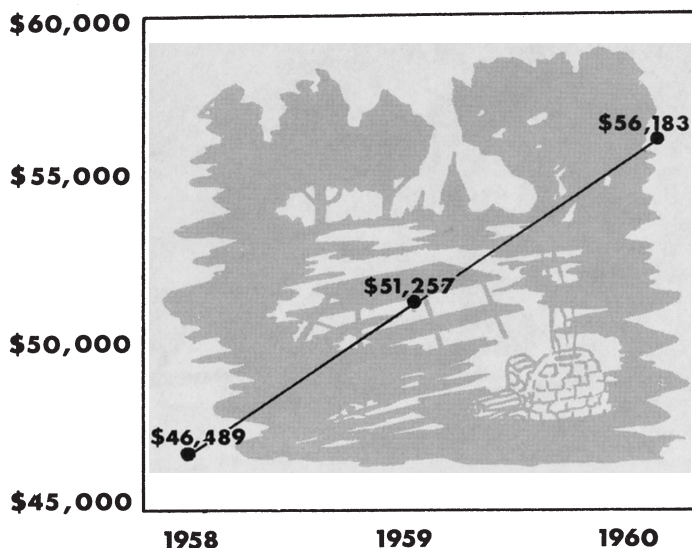
STATE PARKS

The popularity of state parks continued to grow with people both in and out of the state during 1960. Many improvements were made to make these parks more attractive to visitors. A new swimming pool and bathhouse were begun at Chadron to be opened in 1961. Ponca's pool and bathhouse were repainted and four new air-conditioned cabins were added to the park's facilities. Four single cabins at Niobrara were enlarged and remodeled into double cabins. Ten riding horses and new riding equipment were added to the recreation facilities at Chadron.



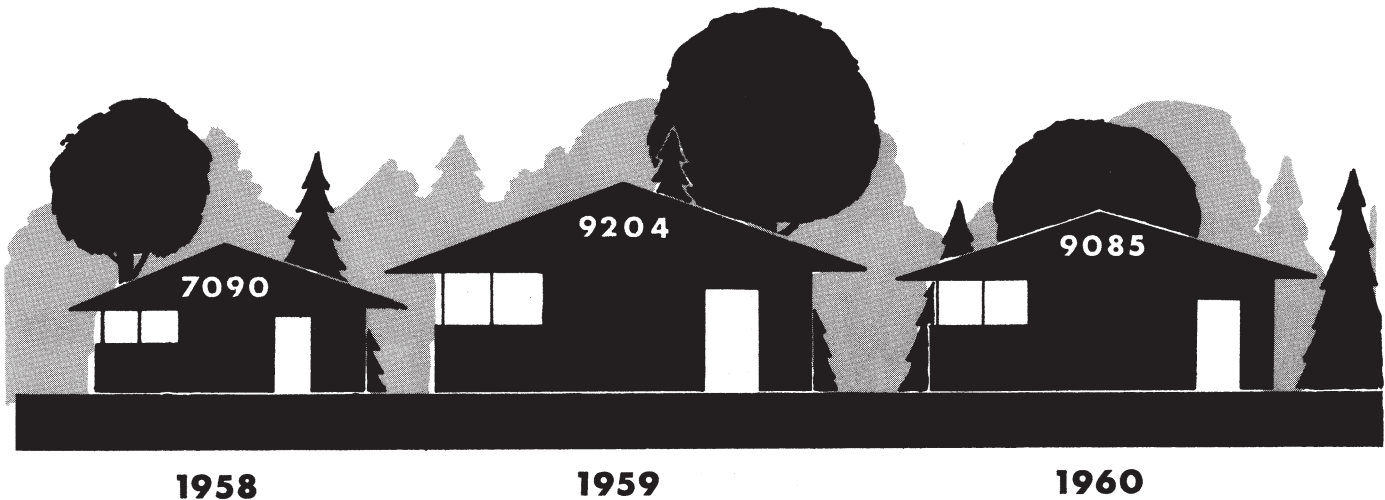
Boating on sleepy lagoons, riding, and swimming are only some of the numerous ways visitors to Nebraska's four lovely state parks can enjoy themselves

STATE PARK INCOME



State park income rose to new highs in 1960 as vacationers began to spend longer periods of time enjoying the park facilities

CABIN UTILIZATION



Even though less people used cabins during 1960, the total guest days increased to nearly 2,000 over 1959

HISTORICAL PARKS

Nebraska gained a new park with the acquisition of the Fort Hartsuff building site, comprising approximately 16 acres, which will be developed under the division's historical park program. Archeological investigations were carried on at Fort Kearny in cooperation with the State Historical Society preceding the fort-restoration program to be carried on during the next few years. Arbor Lodge attendance continued to increase and during the year numerous repairs and maintenance jobs were done, including the renovating of the greenhouse and the planting of a large number of trees and flowering plants.

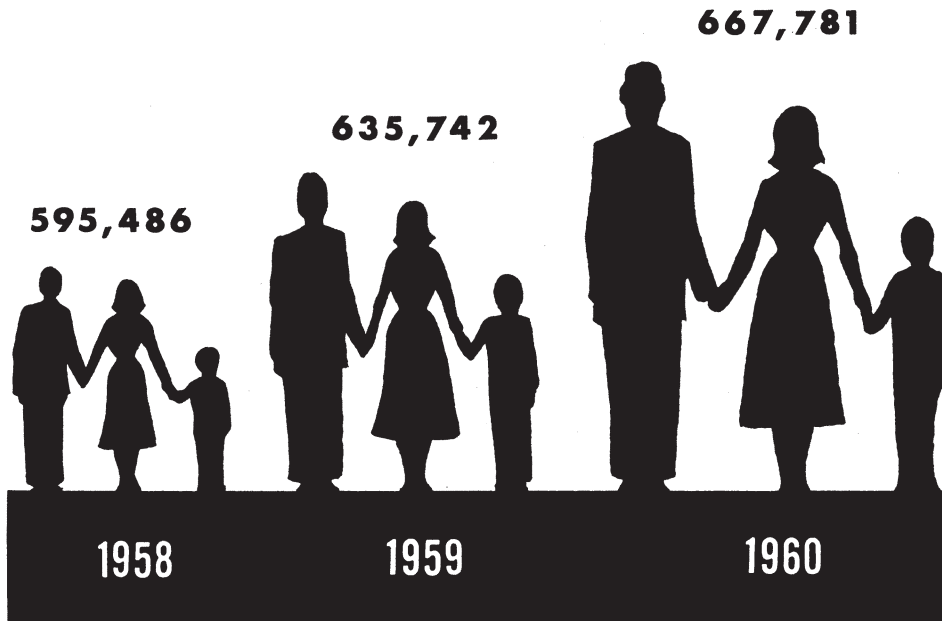
During 1960 Nebraska acquired a new park when the old Fort Hartsuff building site was acquired. This site will be developed under the far-reaching Historical Park Program



PARKS: CONTINUED

AREA VISITATION

More people began to enjoy the recreation offered by state areas. At Two Rivers alone, 25,000 people came during its first week in operation



Camping out began to appeal to more and more people such as this family enjoying the outdoor fun offered by state areas

RECREATION AREAS

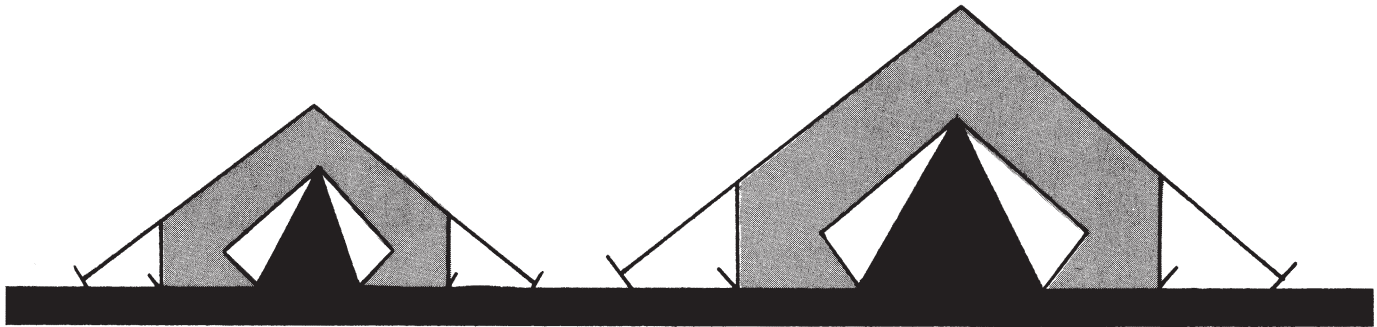
During March, 1960, lands under the control of the Commission were reclassified and 32 state recreation areas were designated and placed under the supervision of the State Parks Division. During the year, many general improvements were made at many of these areas, including addition of playground equipment, fireplaces, picnic tables, restrooms, shelter houses, and water wells. The 40-acre Miller Creek Area at Lewis and Clark Lake was opened during 1960.

A new 933-acre recreation area was opened in August. Two Rivers Recreation Area represents one of the most modern facilities of its kind in the region. Approximately 25,000 people visited the area during the first week, reflecting the need and demand for outdoor recreation in this highly-populated section of the state. The area offers picnicking, swimming area, fireplaces, picnic tables, and a modern concession building.



CAMPING

UTILIZATION



1959

1960

Since 1959, more people have found the fun that camping offers. Well-equipped areas drew a big increase



Well-kept wayside areas like Blue River offer rest and recreation to vacationers and travelers. Two new areas in 1960 brought the total to five

WAYSIDE AREAS

The addition of two new wayside areas, one at Kimball and one at Clarks, brought the total number of wayside areas to five. Both these areas are located on land leased from the Department of Roads. Daily or tri-weekly maintenance was instituted at all wayside areas receiving intensive use. Improvements during the year included new wells and pumps, picnic tables, latrines, waist-high fireplaces, entrance signs, and better roads. The expanded wayside system was well accepted by the public, shown in the increased use of these areas.

INFORMATION & TOURISM

THE INFORMATION part of the Game Commission's Information and Tourism Division translates technical information, research findings, and basic facts of wildlife management into everyday language in order that the people may understand the reasons for management practices, all of which are absolutely essential to the preservation and increase of wildlife populations.

These informational activities, employing the various communications media, equip Nebraskans

with the know-how to enjoy the maximum harvest of fish and game, instill in them an appreciation of our wildlife resources, and keep them posted on all aspects of the Game Commission's program.

Tourist promotion goes statewide and beyond Nebraska's borders to sell, in addition to fishing, hunting, boating, and park facilities, its scenic grandeur, its myriad of historical and cultural attractions, everything that makes this state "NEBRASKAland . . . where the West begins."

PUBLICATIONS

One of the major links with the public is the monthly magazine, **OUTDOOR Nebraska**. During 1960, circulation jumped to a new high, reaching a total paid circulation of 16,104. Other publications such as the hunting, fishing, trapping, and boating guides, game laws, the annual report, and literature pertaining to wildlife, all aid in telling the Game Commission story in detail.

NEWS RELEASES

Press relations are an all-important part of the division's work. The weekly news package, "Wild-life Notes", is sent to all news media, including newspapers, wire services, radio and television stations, national and state publications, outdoor writers, conservation departments, and department personnel. Special hunting and fishing releases during the week provide up-to-date information.

Information and Tourism publications are designed to tell both sportsmen, tourists of state's top features





Six sports shows visited by the division's exhibits brought Nebraska's attractions to the attention of almost a million people. The attractive displays and brochures distributed at shows helped tell the Nebraska story

RADIO, TELEVISION

The weekly radio program, "Outdoor Nebraska on the Air," was broadcast over 24 stations. Fishing and hunting information, where, when, and how-to features, plus discussion of department programs make up this informative fifteen-minute show. Television shorts have proven very effective. Prepared clips are sent to stations throughout Nebraska and several bordering states. They are used on news and sports programs, and during station breaks.

AWARDS

Division efforts were recognized by the American Association for Conservation Information awards program. "Outdoor Nebraska on the Air" and the weekly television series received first-place awards. Honorable mentions went to "Wildlife Notes" and the "Nebraska Highways, 1960".



Radio, TV efforts rank on top in national competition



Increasing emphasis on tourism in Nebraska was shown in record number of people visiting Blair station

ing was done by nationally-known authorities. Nebraska entries were in competition with material from 44 states and six Canadian provinces.

TOURIST PROGRAM

Nineteen-sixty saw an acceleration in Nebraska's tourist program. "NEBRASKALAND" brochures and 1960 highway maps proved tremendously effective in telling and selling the state's many attractions. During 1960, 74,347 pieces of mail were sent in answer to requests from all over the United States and many foreign countries. This was almost double the material mailed in 1959. The Blair tourist station also had a very successful year with visitors

from 49 states and 25 foreign countries making use of the facilities. Registration rose to almost twice that of 1959

PROGRAMS, EXHIBITS

Division personnel gave a total of 73 programs during 1960 reaching 3,664 people. Six sports shows in Chicago, Des Moines, Kansas City, Omaha, St. Louis, Wichita, and Lincoln brought a clear, personal picture of Nebraska to almost a million people. The potential of a realistic park program as tied in with the Platte River Parkway was driven home to countless State Fair visitors in a gigantic animated display.

FEDERAL AID

WHAT IS FEDERAL AID?

Since 1939, Nebraska's wildlife program has been partially financed by Pittman-Robertson funds, and since 1953, fisheries work has been aided by Dingell-Johnson funds. These funds are derived entirely from special excise taxes paid on the purchase of certain hunting and fishing equipment. They are put on deposit for use on game or fish restoration projects. The state has the expense of conducting any approved project, after which it may claim reimbursement for up to three-fourths the actual cost. If the state fails to submit approvable projects to obligate the funds within two years following apportionment, the money automatically reverts to the migratory bird fund.

HOW WAS IT USED?

Pittman-Robertson funds will help finance the land acquisition and development of Two Rivers Recreation Area, the development of Sacramento, Plattsmouth Waterfowl Management Area, Burchard Wildlife Management Area, habitat improvement, and the trapping and transplanting of deer and antelope. Wildlife surveys, the coturnix quail studies, and the pheasant and prairie grouse research will also benefit.

Pond and lake renovations and surveys, and fish management will be partially financed by the Dingell-Johnson funds.



Dingell-Johnson funds aided Fisheries' many projects

WHERE FEDERAL AID WENT

Land Acquisition:

Two Rivers Area	\$ 46,084.6
Subtotal	\$ 46,084.6

Development:

Sacramento	\$ 30,798.2
Plattsmouth Waterfowl Mgt. Area	55,178.9
Two Rivers Area	70,539.0
Burchard Wildlife Management Area	52,819.0
Habitat Improvement	94,989.1
Trapping and Transplanting deer and antelope	16,552.0
Subtotal	\$320,876.4

Game Management:

Wildlife surveys, etc.	\$ 86,797.3
Coturnix quail studies	348.0
Subtotal	\$ 87,145.3

Research:

Pheasant life history and ecology	\$ 12,991.0
Prairie grouse ecology	9,543.2
Roadside survey	6,927.9
Subtotal	\$ 29,462.2

Coordination:

Subtotal	\$ 8,463.4
Total	\$492,032.0

Development:

Pond and lake renovation	\$ 5,571.2
Surveys and management:	78,020.1
Coordination:	2,821.1
Total	\$ 86,412.5

LAND MANAGEMENT

THE key to a more productive future is the application of sound land-use principles, not only in crops, but wildlife as well. For wildlife, like all living things, is dependent on a healthy, fertile soil. Game numbers will either rise or fall as the land is used, and future abundance depends on what is done now. This vital, long-term phase of game

management is handled by the Land Management Division. All projects are geared to the future, including "show-me" habitat restoration and farm-pond demonstrations, youth education, recreation planning and development at potential reservoirs, and the acquisition, development, and maintenance of state-owned special use areas.

HABITAT IMPROVEMENT

This demonstration program to promote the development and preservation of wildlife cover is in its fourteenth year. Shrubs and trees, fencing materials, and planting recommendations have been provided co-operating landowners throughout the state. The project will be limited to youth groups in the future. Demonstrations will also continue on state-owned lands.

Plantings are multi-purpose in that they provide game cover as well as living stock fences, wind-breaks, erosion control, and food. Experimentation continues on a shrub adaptable to the drier portions of the state. Studies are being conducted on weed control in tree plantings.

FARM PONDS

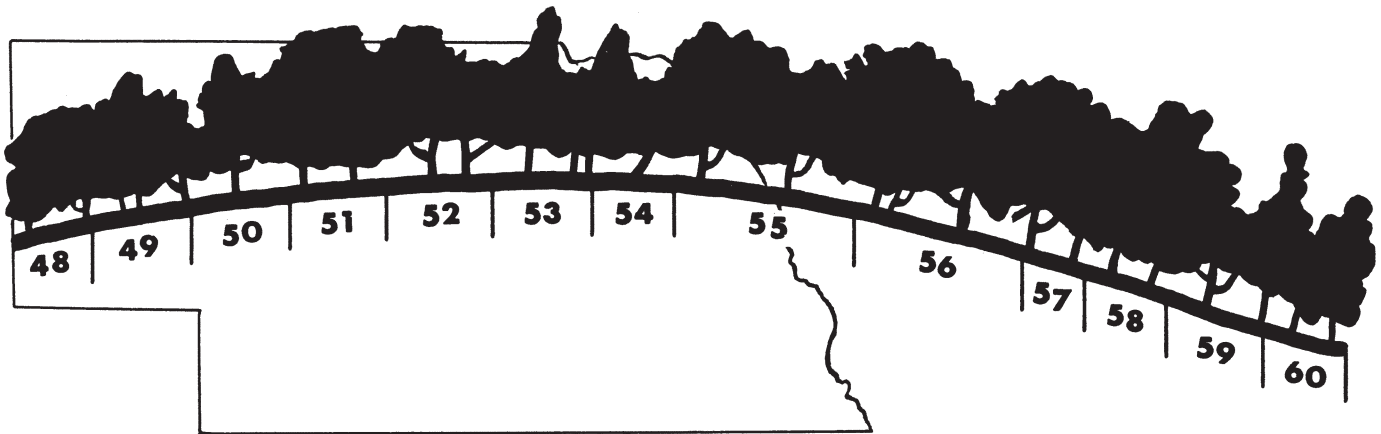
Recognizing that well-planned farm ponds can help meet the ever-increasing demand for more fishing waters, the division is embarking on a demonstration farm-pond program on select private lands and state areas throughout the state. The project is presently in the planning stage with developments scheduled for 1961.

As in the habitat restoration program, materials will be provided co-operators. These include fencing, pipe and filters, trees and shrubs, and grass seed. Each site will serve as a demonstration pond for a two or three-county area, and will encourage landowners to develop their own ponds as recreation and scenic as well as erosion control and livestock watering areas.

Landowners are being encouraged to develop scenic and recreation potential of their ponds which meet the increasing demand for more fishing waters in Nebraska



MILES OF TREES AND SHRUBS PLANTED



$1\frac{2}{3}$ TIMES THE LENGTH OF THE STATE

Habitat plantings such as the one below have amounted to over 704 miles of trees and shrubs since 1948



LAND MANAGEMENT: CONTINUED

The state's 33 special use areas, including reservoirs, public hunting sites, and wildlife management units are developed and maintained by this division. Scattered throughout the state, they serve a variety of purposes. Many are developed for public use and have camping, picnicking, and playground facilities. Others serve wildlife-management needs.

New developments include a shelter house, wells, and road surfacing at Swanson Reservoir; a shelter house, extension of a boat ramp, and resurfacing of roads and parking lot with gravel at Medicine Creek Reservoir; two concrete boat ramps, directional signs, and establishment of a 2,500-acre goose-management area at McConaughy. The Gifford-Fontenelle area on the Missouri was acquired as a waterfowl management and hunting area.

Management areas such as Plattsmouth and Sacramento-Wilcox proved their effectiveness. The

fall goose population doubled at Plattsmouth, and a peak concentration of 50,000 migrating ducks was counted at Sacramento in November.

All areas are maintained on a year-round basis. When feasible, private lessees raise and harvest agricultural crops or graze livestock.

The division participated in recreation planning of reservoir projects under the Coordination Act of 1946. These include Sherman, Red Willow, Norden, Angus, Spalding, Calamus, David Creek, Arcadia Diversion, Mirage Flats Extension, Ainsworth, Salt-Wahoo, Little Nemaha, Buckley Creek, Bowman-Spring Branch, Plum, Bear-Pierce-Cedar, and Wilson Creek. Other developments were investigated, but offered little recreation or wildlife management possibilities. Such work with federal agencies assures that proper emphasis is placed on recreation potential.

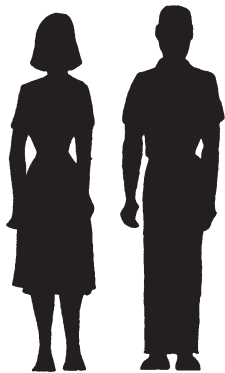
SPECIAL USE AREAS



Nebraska reservoir areas are constantly being developed so they reach their full recreational potential



1959



1960

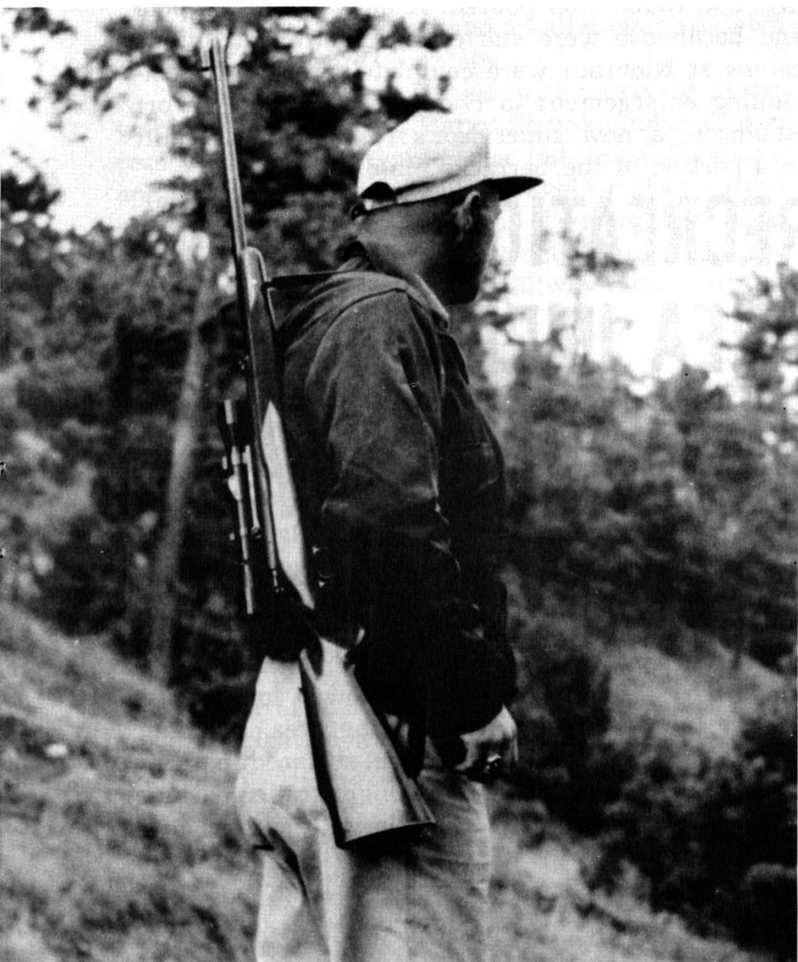
YOUTH

EDUCATION

POTENTIAL



The youth education program is bringing a greater understanding of the outdoors to more young people



Many public hunting sites are included among the state's 33 special use areas. Hunters looking for deer, waterfowl, and small game find plenty of sport at these carefully-maintained management areas

YOUTH PROGRAM

Initially designed as a supplement to the habitat restoration program, the project is now open to all youth and youth groups and features instruction in wildlife and related outdoor recreation resources and activities.

More than 1,000 members of 4H clubs and FFA chapters participated this year. An additional 1,809 grade-school children enrolled in the project. Instruction is provided by teachers and club or chapter leaders. Students completing projects outlined in the Youth Manual and 4H and FFA workbooks received individual conservation scrolls. Manuals for all groups were prepared and distributed by the division.

Other phases of the education program include participation in conservation workshops for teachers, approved courses for gun-safety instructors, and school programs and demonstrations.

ENGINEERING



Moving earth, building structures, planning future improvements all part of engineering's many jobs

THE WORK of the division's sections, engineering, operations, and supply, includes handling a portion of the land acquisition and maintenance of areas under the jurisdiction of the Parks and Land Management divisions, preparing designs, plans, and specifications, constructing new projects, running surveys, and operating the supply depot and buildings. During 1960, the development of Two Rivers Recreation Area was a major achievement, and many state areas received improvements.

PARK IMPROVEMENT

Nineteen-sixty was a year of many improvements for Nebraska's state parks. Four two-bedroom cabins and a combination residence and administration building were constructed at Ponca, and Site No. 2 for four additional cabins to be constructed in 1961 was cleared, access road graded, and footings and foundation poured. A new swimming pool and bathhouse were started at Chadron, and four cabins at Niobrara were completely remodeled, including enlargement to two-bedroom size. At Fort Robinson, a new supervisor's residence was built in a portion of the barracks building.

RECREATION, WAYSIDE AREA IMPROVEMENT

The development of the new Two Rivers Recreation Area was one of the major projects of the year. The area has a new bathhouse and swimming area. A concrete deck was poured for single and three-meter diving boards and pool ladders. The lake bed was dredged and graded to provide shallow and deep-water areas, and sand was deposited and spread for a large beach area. The entire area was then fenced with chainlink fencing. Three all-modern restrooms, one with a shower for the use of occupants of the trailer parking area, and four asphalt-surfaced, and two gravel-surfaced parking areas were completed. The overnight trailer parking area is all-modern with 23 stalls with surface connections for sewer, water, and electricity. The trout lake and concession site were readied, a water-supply well, water-distribution system, and water-



Completion of the new bathhouse and swimming area at Two Rivers was one of 1960's major projects

control structure were built. Two new residences for supervisory personnel and an all-metal, insulated shop building were completed.

All-metal shelter houses with concrete floors were added at Enders, Harry Strunk, and Swanson reservoirs. A beach area was put in at Swanson, and all three reservoirs had gravel or shad spread on the roads and parking areas. Two concrete boat-launching ramps were constructed at Lake McConaughy, and a concrete spillway was built at Walgren.

GAME AND FISH MANAGEMENT WORK

Finishing touches were added to the two-year project carried out in the Sacramento-Wilcox Game Management Area, including construction of concrete drop structures, completion of syphon structures, and preparation of necessary data for the installation of underground conduit for transfer of surplus irrigation waters. The work done will greatly improve this 2,300-acre public-hunting area for both upland game and migratory waterfowl.

Grove Lake Special Use Area was selected for the development of a trout-rearing station and two earthen dams were built in 1960. When completed, the station will have a diversion structure in

Verdigre Creek, raceways, and water-control lines. At Gretna Hatchery, a new water-supply line was constructed, and the new addition to the supervisor's residence was completed.

FLOOD REPAIR

The 1960 spring flooding damaged many state areas. Plattsmouth Waterfowl Management Area, Niobrara State Park, Memphis, Dead Timber, Fremont, and Louisville recreation areas, and Crystal Lake all received some damage from the high waters. Dikes and roads had to be rebuilt and there was much clean-up work.

MISCELLANEOUS

During the year, the division assisted other divisions in the trapping and transplanting of antelope and deer, the storage, sorting, and packing of 1,848 hides and furs, transplanting scaled quail to release sites, fabrication and installation of the new park signs and highway markers, delivery of fencing material for wildlife planting, planting of 2,300 trees on the Wanamaker tract, and minor fish salvage work.

LAW ENFORCEMENT

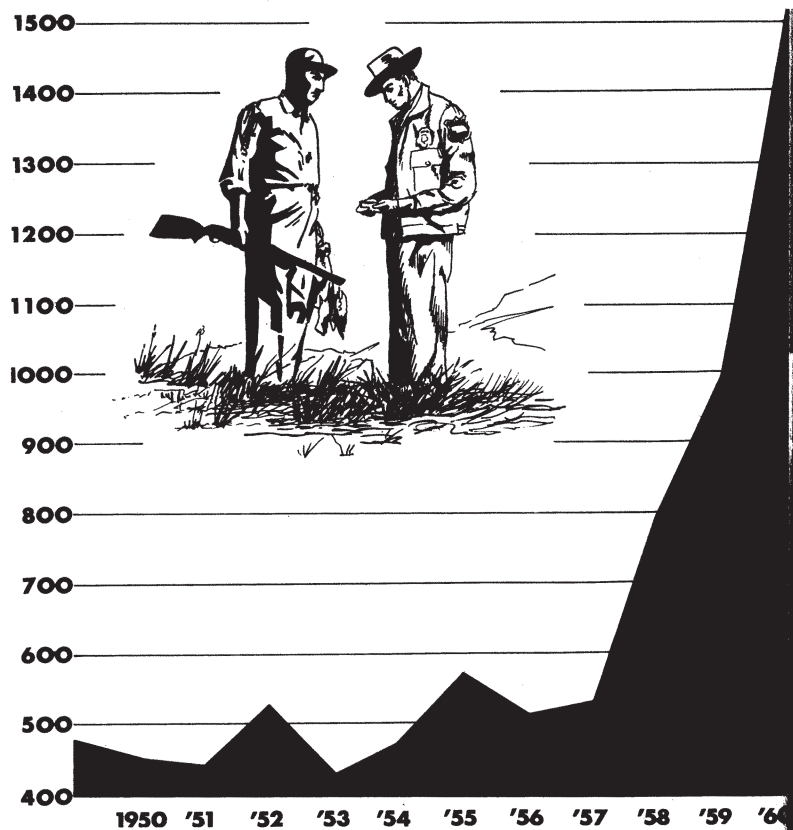


Today's conservation officer has many duties other than apprehending violators. He helps prevent violations through informative programs

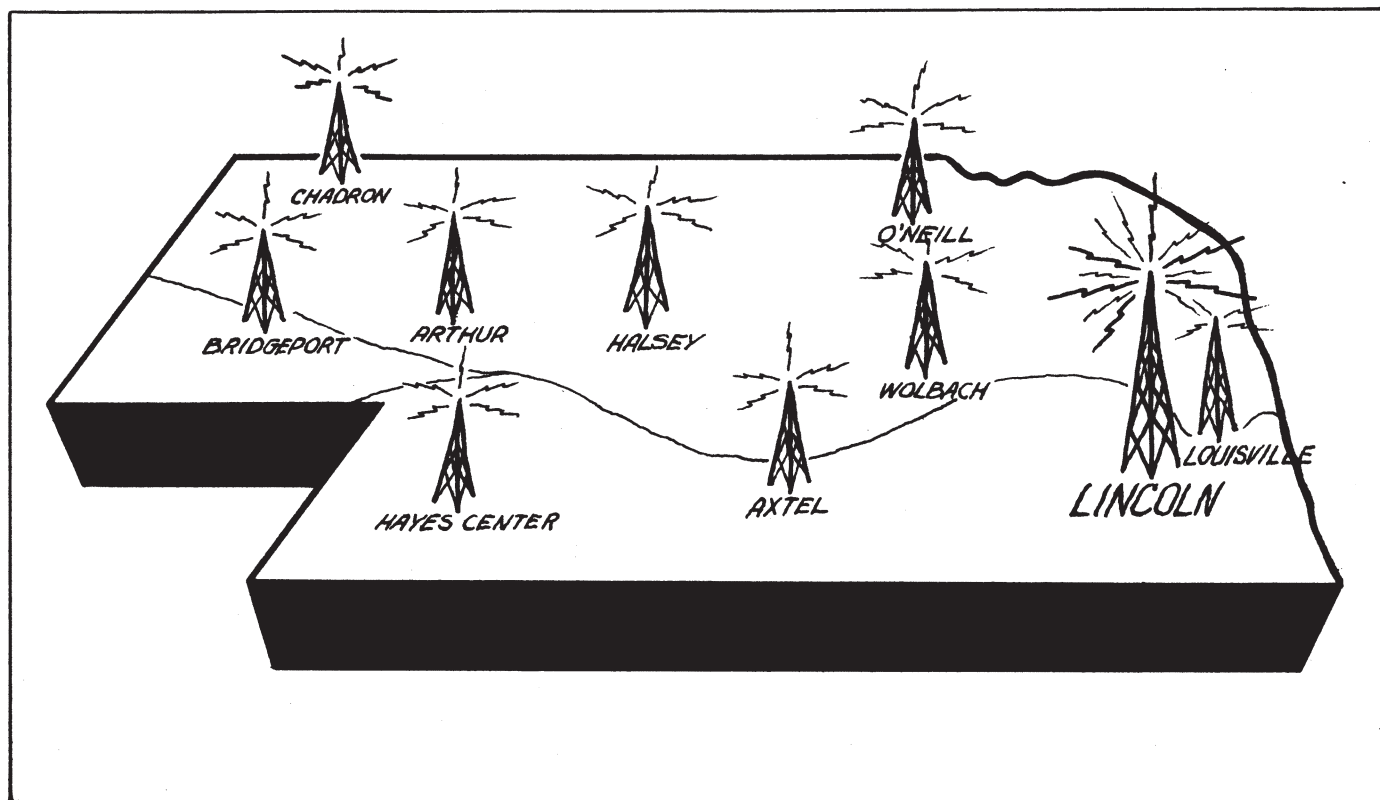
GAME law enforcement is a major phase of Commission activities. Although the conservation officer's primary function is apprehending law violators, he also helps prevent law violation through conservation information and related educational work. He is in continuous contact with the public and answers numerous questions on all phases of wildlife management. At times, conservation officers assist other law enforcement agencies in various matters encompassing a range from thefts to murders.

During 1960, six new officers were added to the Law Enforcement Division, and work was initiated in the installation of the state-wide two-way communication system. These factors plus increased efficiency help account for the 98.6 conviction percentage for the total number of arrests during 1960.

Installation of new two-way radio communications system and increased efficiency on the part of conservation officers help account for the 98.6 conviction percentage during 1960



COMMUNICATIONS

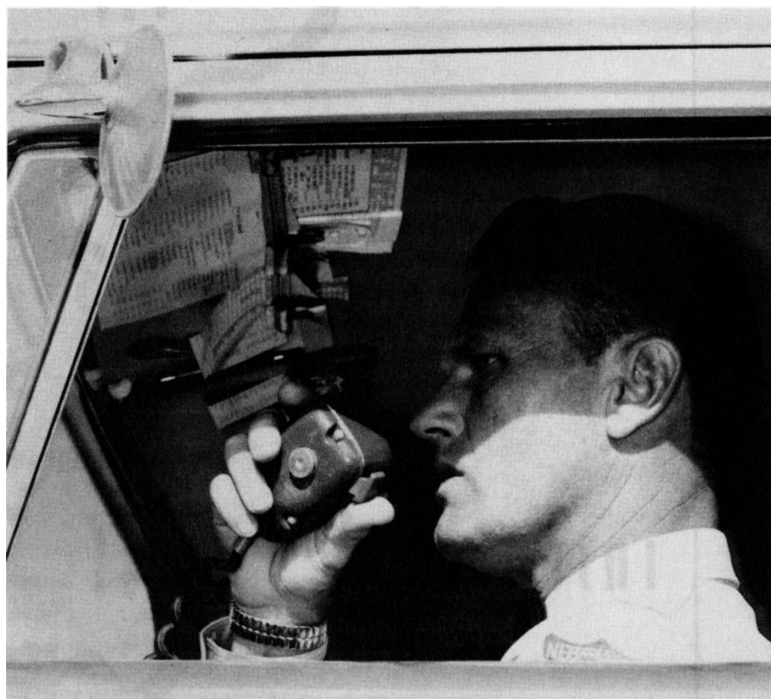


Strategically-located relay towers provide point-to-point communications with their associated mobiles

Time and money can be saved by the new system. Officers now have a direct contact with their operational bases

DURING 1960, communications were improved throughout Nebraska by the installation of relay stations placed strategically about the state with transistorized mobile units operating in the 150 m.c. range. Fifty per cent of the equipment will be financed by the federal government through Civil Defense matching funds and will be part of the national Civil Defense network. The 150 m.c. range was chosen since it will eliminate static vibrator noise usually associated with receivers.

Also included in the new system are two microwave links. These are advantageous since transmission at these frequencies is virtually free from all static or atmospheric disturbances, as well as man-made interference of all kinds encountered at lower frequencies. Another important advantage is the cost of operation as compared to building and maintaining wire lines for control purposes.



BOATING



SINCE November, 1959, Nebraska has administered its boating laws. Under the 1958 Federal Boating Act, states could enact laws which set up certain equipment, safety, and administrative requirements which complied with those in the federal act. Nebraska was among those in the lead to do so.

Nebraska registered 13,014 power boats as of June 30, 1960. The money from boat registration goes primarily for boating law enforcement and administration. Remaining funds are used for boat facility construction and improvement.

The number of boaters in Nebraska has been constantly rising with 13,014 boats registered during 1960

NATIONAL and STATE ACCIDENT AVERAGE PER 13,000 BOATS

ACCIDENTS

4.1

16

DEATHS

1.33

6

INJURIES

1.41

5

FINANCIAL

January 1, 1960 Cash on Hand:

Game Fund	\$253,973.85
Recreation Areas	10,043.79
Boating Fund	17,195.43
State Parks (Cash)	4,379.87
State Parks (Mill Levy)	24,675.53

\$310,268.47

January 1, 1960 Appropriation Balance on Hand:

State Parks	\$14,358.95
Tourist Promotion	118.02

\$14,476.97

Income:

Game (Permits, Stamps & Special Fees)	\$2,013,787.50
State Parks (Cash and Appropriation)	183,840.26
State Parks Special Mill Levy	398,117.82
Recreational Area Use Stamps	23,707.50
State Boating Fund	24,777.00
Tourist Promotion (Appropriation)	15,000.00

Disbursements: (Cash and Appropriation)

\$2,499,177.33

\$2,983,975.52

\$2,499,117.33

Cash Balance January 1, 1961

\$484,565.04

Appropriation Balance January 1, 1961

293.15

\$2,983,975.52

\$2,983,975.52

SOURCE OF INCOME

Hunting Activities:

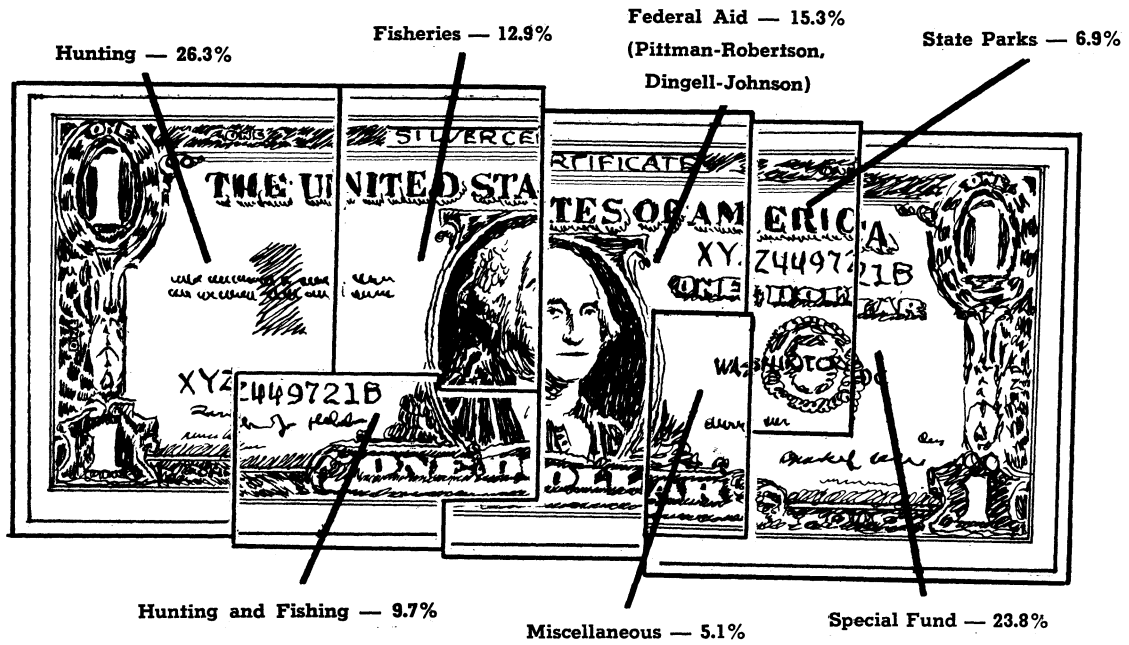
Resident License to Hunt	\$288,403.14
Non-resident Hunting Licenses	250,048.60
Resident Trapping Licenses	7,310.50
Resident Fur Buyers Licenses	630.00
Non-resident Fur Buyers Licenses	400.00
Deer Permits	140,280.00
Antelope Permits	5,500.00
Beaver Damage Permits	45.00
Game Farm Permits	1,297.90
Beaver Seals	108.00
Fur Sale	5,300.30
Buffalo and Venison Sale	20.00

\$699,343.44

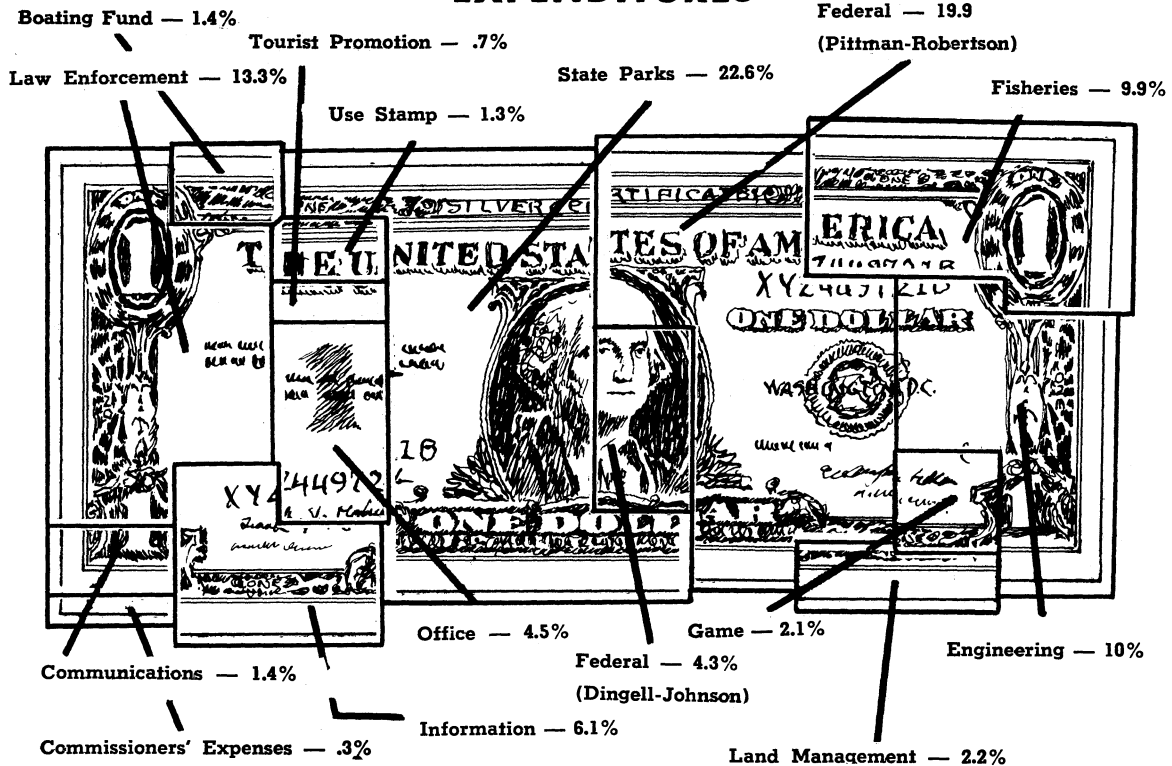
Fishing Activities:

Resident Licenses	\$255,758.70
Non-resident Licenses	39,582.00
Non-resident 5-day Licenses	17,533.00
Bait Vendors	2,290.00
Seining Vendors	5,405.00

SOURCE OF INCOME



EXPENDITURES



Private Fish Hatchery Licenses	165.00
Sale Food Fish	10,682.75
Gretna Hatchery	1.40
Trout Permits	11,364.00

Hunting and Fishing Activities:

Resident Hunting and Fishing Licenses

\$258,046.96

\$342,781.65

\$258,046.96

Federal**Pittman-Robertson and Dingell-Johnson****Reimbursements****\$406,073.48****Miscellaneous Receipts****\$406,073.48**

Liquidated Damages

\$8,054.95

Two Rivers

1,650.80

Leases

76,562.59

Outdoor Nebraska

28,015.84

Shipping Orders

2,968.34

Sale of Motor Vehicles

7,781.81

Incidentals

11,602.54

State Parks-Rentals and Miscellaneous**\$136,636.87**

Arbor Lodge

\$ 5,931.35

Chadron

16,028.82

Fort Robinson

13,623.14

Niobrara

12,709.45

Ponca

6,013.30

Stolley

543.00

Victoria Springs

1,334.00

Two Rivers

1,015.29

Miscellaneous Areas

4,281.38

Appropriations All Parks

122,360.53

Special Cash Funds**\$183,840.26**

Recreational Area Use Stamp

\$23,707.50

\$23,707.50

Upland Game Stamps

\$170,904.90

\$170,904.90

Special Mill Levy State Parks

\$398,117.82

\$398,117.82

State Boating Fund

24,777.00

\$24,777.00

Tourist Promotion (Appropriation)

\$15,000.00

\$15,000.00**Total Income for 1960****\$2,659,230.08****EXPENDITURES****State**

Office

\$112,127.77

Information

153,148.45

Commissioners' Expense

5,614.42

Law Enforcement

334,005.65

Radio Communications

36,586.34

Fisheries

Administration

\$16,710.42

Salvage and Distribution

89,136.09

Gretna Fish Hatchery

23,651.94

Valentine Fish Hatchery

33,528.36

North Platte Fish Hatchery

25,428.78

Rock Creek Fish Hatchery

48,128.68

Fish Management

10,774.10

\$247,358.37

Engineering and Operations

Administration	\$ 59,482.81
Construction and Operation Crew	151,252.15
Supply Depot	18,336.85
Revolving Fund (Inventory Supplies Replacement)	11,471.64
North Platte Headquarters Building	478.84
Two Rivers	27,257.44
Lewis and Clark	6,927.58

\$275,207.31**Game**

Administration	\$19,324.13
Game Farms	24,071.48
State Trapper	8,216.00

\$51,611.61**Land Management**

Administration	\$29,045.81
Pressey	711.49
Reservoir Crews	25,640.42

\$55,397.72**Federal****Pittman-Robertson (Game)**

Co-ordination	\$ 8,463.40
Wildlife Survey and Investigations	86,797.31
Upland Game Restoration	94,989.18
Sacramento Wildlife Development	30,798.24
Pheasant Life History and Ecology	12,991.04
Plattsmouth Waterfowl Area	55,178.90
Ecology of Coturnix Quail	348.03
Trapping and Transplanting of Antelope and Deer	16,552.02
Roadside Survey	6,927.90
Ecology of Prairie Grouse	9,543.27
Two Rivers Acquisition	46,084.63
Two Rivers Development	70,539.05
Development and Improvement of Fish & Wildlife Areas	5,571.26

52,819.06

Burchard Wildlife Area

\$497,603.29**Dingell-Johnson**

Co-ordination	\$ 2,821.13
Fisheries Inventory and Investigations	78,020.17

\$80,841.30**State Parks (Appropriations, Cash and Mill Levy)**

Administration	\$ 70,957.28
Fort Robinson	45,609.32
Niobrara	49,325.19
Ponca	101,841.70
Fort Kearney	4,287.30
Arbor Lodge	19,403.04
Chadron	77,055.70
Stolley	7,784.17
Victoria Springs	8,911.30
Two Rivers	117,029.95
Lewis and Clark	13,012.27
Box Butte-Minatare	167.71

Recreation Areas	41,764.04
Lake Ogallala	4,820.72
State Wayside Parks	2,002.18
Fremont	1,442.48

Recreation Use Stamp
Tourist Promotion
State Boating Fund

\$565,414.35
\$33,731.29
\$15,037.35
\$35,432.11

Total Expenditures for 1960

\$2,499,117.33

PERMITS ISSUED BY COUNTIES
1959

COUNTY	RES. FISH	RES. HUNT	FISH & HUNT	N.R. HUNT	N.R. FISH	N.R.F. 10 DAY	TRAP	TOTAL
Adams	2987	2438	1473	218	4	87	16	7223
Antelope	1000	561	530	22	1	59	30	2203
Arthur	50	28	59	5		4		146
Banner	20	43	29	2			1	95
Blaine	112	87	104	6		15	15	339
Boone	717	763	372	21		7	31	1911
Box Butte	1450	1191	737	79	1	87	8	3553
Boyd	394	362	252	9	1	18	20	1056
Brown	639	388	406	36	13	75	33	1590
Buffalo	2954	2173	1707	205	7	98	43	7187
Burt	714	696	458	40	1	13	48	1970
Butler	656	621	506	6		17	16	1822
Cass	1774	1482	824	27	3	41	69	4220
Cedar	1131	840	383	70	2	32	36	2494
Chase	829	600	630	169	164	295	22	2709
Cherry	816	457	549	32	15	108	26	2003
Cheyenne	1323	1615	865	226	10	76	6	4121
Clay	689	703	597	106		22	10	2127
Colfax	747	822	660	23		9	31	2292
Cuming	901	658	524	27		21	39	2170
Custer	1717	1601	1117	118	2	80	28	4663
Dakota	1058	1296	399	388	31	56	20	3248
Dawes	1191	799	563	33	12	81	23	2702
Dawson	2742	2175	1296	120	13	222	72	6640
Deuel	244	329	203	104	29	116	7	1032
Dixon	507	486	336	38	4	25	17	1413
Dodge	3749	2517	1565	90	5	123	120	8169
Douglas	20092	20643	7622	445	43	152	97	49094
Dundy	357	326	316	191	353	180	10	1733
Fillmore	707	802	597	104	1	28	6	2245
Franklin	640	444	354	144	19	55	2	1658
Frontier	430	311	291	41	1	17	7	1098
Furnas	1545	860	736	201	75	243	22	3682
Gage	1985	1834	1184	213	13	60	56	5345
Garfield	332	261	248	11	3	15	19	889
Garden	431	404	307	78	24	143	11	1398
Gosper	166	125	98	15	8	33	4	449
Grant	136	90	101	5		20	10	362
Greeley	373	424	248	35		8	5	1093
Hall	3505	2855	1899	187	2	94	18	8560
Hamilton	711	566	457	27	1	24	13	1799

Harlan	2580	335	672	207	444	1101	7	5346
Hayes	112	154	108	14		10		398
Hitchcock	1082	506	472	108	572	667	10	3417
Holt	1311	1001	1089	41	5	50	82	3579
Hooker	160	80	195	10		5	9	459
Howard	685	435	495	45	1	18	28	1707
Jefferson	966	1016	631	112	15	57	29	2826
Johnson	518	503	405	14		16	34	1490
Kearney	493	480	338	74	4	27	2	1418
Keith	1667	917	1103	152	187	1085	16	5127
Keya Paha	94	94	53	2	9	6	4	262
Kimball	717	835	397	164	34	100	5	2252
Knox	2487	831	816	40	6	157	43	4380
Lancaster	9676	11970	5764	1237	19	95	91	28852
Lincoln	1404	2906	1965	232	28	413	70	9718
Logan	95	105	95	7		4	3	309
Loup	112	67	91	1		6	3	280
McPherson	63	42	44	2		4	1	156
Madison	2468	2137	1255	89	5	79	43	6076
Merrick	783	609	567	41		34	15	2049
Morrill	743	605	434	89	7	70	18	1966
Nance	561	450	340	15	1	19	14	1400
Nemaha	723	718	491	47		31	19	2029
Nuckolls	562	613	374	161	7	30	8	1755
Otoe	1235	1272	907	67	4	23	48	3556
Pawnee	439	270	350	59	8	22	16	1164
Perkins	314	443	334	81	13	34		1219
Phelps	1146	819	645	201	6	75	6	2898
Pierce	861	562	453	12	2	33	17	1940
Platte	1819	1822	1259	55	2	59	57	5073
Polk	571	349	397	17		17	3	1354
Red Willow	2334	1536	898	431	216	389	28	5832
Richardson	1627	1105	929	182	149	76	59	4127
Rock	254	197	247	5	2	12	26	743
Saline	1137	1103	999	65	1	31	50	3386
Sarpy	1475	1353	449	21	3	29	23	3353
Saunders	1273	1101	802	27		24	103	3330
Scotts Bluff	3691	2784	1520	268	43	164	30	8500
Seward	1049	1059	706	45		18	26	2903
Sheridan	976	764	586	38	1	48	29	2442
Sherman	372	416	260	34		20	14	1116
Sioux	90	53	72	6	8	12	4	245
Stanton	359	248	270	4	1	5	17	904
Thayer	803	617	554	288	3	31	10	2306
Thomas	185	111	122	3		8	10	412
Thurston	412	376	164	11	1	2	30	996
Valley	654	606	526	44	2	43	19	1894
Washington	675	782	400	55	2	6	34	1954
Wayne	665	618	312	19		10	11	1635
Webster	617	460	322	207	20	61	6	1693
Wheeler	214	87	117			9	7	434
York	1072	1001	735	101	3	25	20	2957
Colorado				63	210	33		306
Iowa				328	8	4		340
Kansas				143	375	98		616
South Dakota	555	68	91	7	3	47		771
GRAND TOTALS	122130	105067	65222	9708	3291	8411	2324	316152